

REMARKS

Status of the Application

Claims 1-20 are presently pending in this application, all of which stand rejected.

Enablement Rejection

The Examiner rejects claims 1 and 10 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner alleges that “[i]t is not clear from the Specification or Drawings as to what part of the ray is a first part or a second part.”

Applicant respectfully disagrees. Specifically, pages 11-14 of the specification, along with FIGS. 1 and 2, clearly support the recitation of a first part and a second part of light emitted from light source 22a. As shown in FIG. 1 (and described on pages 11-13 of the specification), a first portion or part of the light emitted from light source 22a is reflected from reflector 24 forward (see the light ray traces in FIG. 1). Further, as shown in FIG. 2 (and described on page 14 of the specification), a second portion or part of the light emitted from light source 22a is double reflected by the additional reflectors 34A and 34B, and is then reflected by reflector 24 forward (see light ray traces in FIG. 2).¹

¹ Applicant respectfully submits that the above explanation is directed to an exemplary embodiment of the invention, and is not intended to limit the scope of the claims.

In view of the above explanation, Applicant respectfully requests the Examiner to withdraw this rejection.

Anticipation Rejection

The Examiner again rejects: (1) claims 1, 3, 4, 10, 11, 15, 16 and 20 under 35 U.S.C. §102(b) as being anticipated by *Lindae et al.* (U.S. Patent No. 4,800,467; hereinafter “*Lindae*”); and (2) claims 2, 5-9, 12-14 and 17-19 under 35 U.S.C. §103(a) as being unpatentable over *Lindae* in view of *Graham* (U.S. Patent No. 1,525,234; hereinafter “*Graham*”). These rejections are respectfully traversed.

Independent Claims 1 and 10

In the December 7, 2005 Amendment, Applicant pointed out that *Lindae* was deficient with respect to any teaching or suggestion of any double reflection of a part of the light rays, and the redirection of the doubly reflected light rays towards a reflector or reflecting means, as recited in independent claims 1 and 10. Rather, Applicant pointed out that *Lindae* only discloses a single reflection of light by sphere segments 34, 35 back towards the light source 17 and reflector 14.

In the instant Office Action, the Examiner disagrees, and alleges, *inter alia*, that:

“...a broad interpretation of the term “double reflection” reads on [*Lindae*]. Specifically and as previously noted, [*Lindae*] discloses a pair of opposed additional reflectors disposed face to face with each other, thus providing a “double reflection” or “an amount [of

reflection] that is twice as great as another.” Due to a doubling of the reflectors, there is doubling of the light reflected with redirection thereof toward the reflector. The rejections are maintained.”

Applicant respectfully disagrees for at least the following two reasons:

First, the Examiner seems to be focused on the term “double reflection” in isolation, which is improper. As noted in the December 7, 2005 Amendment, it is Applicant’s position that *Lindae* fails to teach or suggest:

(1) independent claim 1’s recitation of “a pair of opposed additional reflectors disposed face to face with respect to each other, thereby **providing double reflection** of a second part of the rays of light **and redirection thereof toward the reflector;**” (emphasis added); and

(2) independent claim 10’s recitation of a “means for **doubly reflecting** a second part of rays of light, **thereby redirecting the second part of the rays of light toward said means for reflecting**, so as to be reflected forward with respect to said light source” (emphasis added).

Accordingly, independent claims 1 and 10 do not simply recite “double reflection.” Rather, these claims recite: (1) the “double reflection” of light; and (2) the redirection of that “doubly reflected” light toward the main reflector. This is not taught or suggested by *Lindae*.

As a matter of example to more fully explain the differences between the invention claimed in the instant application and *Lindae*, Applicant hereby references FIG. 2 of the instant application, which is reproduced hereinbelow for convenience. In this exemplary embodiment,

portions of light are first emitted from light source 22a, and then either successively reflected by:

(1) additional reflector 34A, additional reflector 34B, and then reflector 24; or

(2) additional reflector 34B, additional reflector 34A, and then reflector 24. This relationship is clearly illustrated by the respective light ray traces in FIG. 2. The recited "double reflection" of independent claims 1 and 10 corresponds to the two reflections from additional reflectors 34A and 34B (or *vice versa*), and the redirection of the double reflected light corresponds to the reflection towards reflector 24 (after the two reflections from additional reflectors 34A and 34B). In view of this arrangement, light rays are effectively reflected three times (twice by the additional reflectors 34A, 34B and once by the reflector 24).

In contrast, *Lindae* specifically discloses the arrangement shown in FIG. 1, which is reproduced to the right for the Examiner's convenience. In this arrangement, a single additional reflector 34 is provided, and this single additional reflector

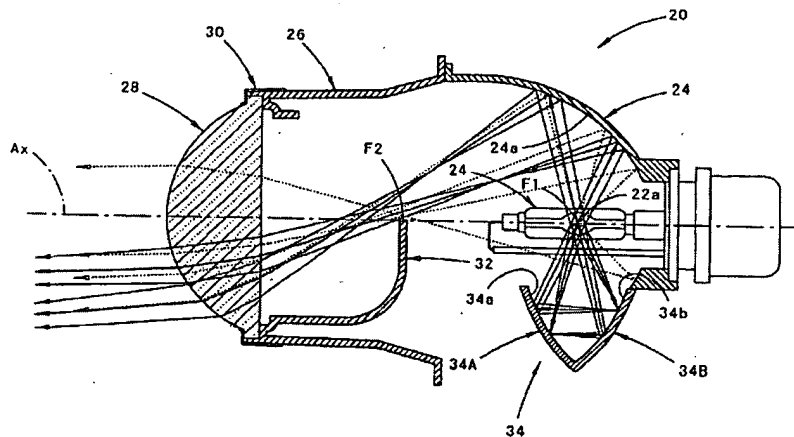


Fig. 2

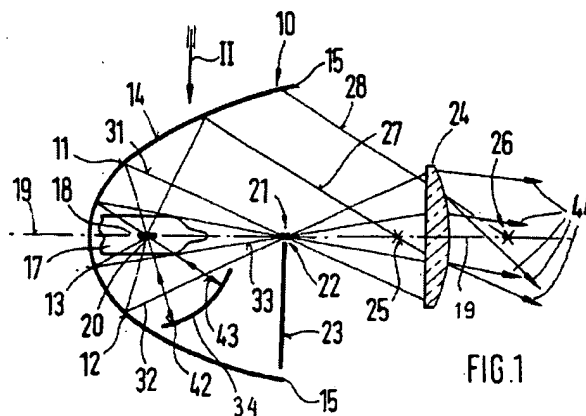


FIG.1

reflects light a single time back towards the light source 17 and main reflector 14. No portion of *Lindae* is disclosed as “doubly reflecting” any light so that it is **thereby directed toward reflector 14**. Further, light that is not initially directed towards additional reflector 34 is specifically indicated as being reflected once so that it travels in a forward direction (see light traces).

In addition, *Lindae* discloses two reflectors: a left sphere segment 34 and a right sphere segment 35 (see FIG. 2). The center point 38 of the left sphere segment 34 is located on the left of the spiral filament 18, and the center point 39 of the right sphere segment 35 is located on the right of the spiral filament 18 (col. 2, lines 53-66). Thereby, both left and right sphere segments respectively have spherical reflective surfaces and focal points (center points 38, 39) in the incandescent light 17. (See FIG. 2 showing the focal points 38, 39 in the incandescent light 17.) Therefore, the light from the incandescent light 17 to the sphere segments 34, 35 are reflected on the sphere segments 34, 35 toward the incandescent light 17 in *Lindae*. Accordingly, *Lindae* does not disclose at least the limitation in claim 1 of “toward the reflector” and in claim 5 of “toward said means for reflecting.”

Secondly, with respect to the Examiner’s allegations that: (1) the term “double reflection” is somehow equivalent to “an amount of reflection that is twice as great as another,” and (2) “due to a doubling of the reflectors, there is a doubling of the light reflected with redirection thereof toward the reflector,” the Examiner has provided no **citation for such interpretations**. Thus, his position is entirely unsupported and improper.

Thus, Applicant respectfully submits that independent claims 1 and 10 are patentable over the applied references.

Further, Applicant respectfully submits that rejected dependent claims 2-9 and 11-20 are: (1) allowable at least by virtue of their dependency; and (2) separately patentable over the applied references. Additionally, Applicant respectfully submits that there is no teaching or suggestion that the reference (*Graham*) applied against various dependent claims discloses the features missing from *Lindae*, as *Graham* is silent on any particular double reflection.

For example, Applicant again respectfully submits that no combination of *Lindae* and *Graham* teaches or suggests dependent claim 2's recitation that "the reflective surfaces of the pair of respective additional reflectors are formed in a configuration comprising paraboloids of revolution." Specifically, neither left sphere segment 34 of *Lindae* nor concave reflector 4 of *Graham* are formed of a paraboloid of revolution.

In the instant Office Action, the Examiner disagrees with this position, and alleges that *Graham* "illustrates a paraboloid of revolution in Figs. 2 and 6 wherein a surface (4) is obtained by revolving a parabola around its axis and the light source (5) is at a common axis (Fig. 6)."

There is simply no teaching or suggestion in *Graham* that concave reflector 4 is formed of a paraboloid of revolution. **While *Graham* specifies that its main reflector 1 is a parabolic reflector, *Graham* never indicates that its concave reflector 4 is parabolic in any way.** In

fact, *Graham* repeatedly indicates that concave reflector 4 is simply concave, or that it is semi-spherical. Thus, the Examiner's position is unsupported.

Moreover, on page 2, lines 92-94 of *Graham*, it is disclosed that "the rays striking the mirror 4 [are] being reflected directly back across the focal point to the parabolic surface." Since the focal point of the mirror 4 is positioned on the light 5 (see page 2, lines 7-9), the mirror should have a spherical reflective surface. Therefore, *Graham* does not disclose or even fairly suggest "paraboloids of revolution."

Thus, for at least the foregoing reasons, Applicant respectfully requests the Examiner to withdraw the above rejections.

Conclusion

In view of the preceding remarks, it is respectfully submitted that claims 1-20 are allowable. Thus, it is respectfully requested that the Examiner pass this application to issue at the earliest possible time.

If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned attorney at the local telephone number listed below.

REQUEST FOR RECONSIDERATION
U.S. Serial No. 10/755,477

Attorney Docket No. Q79396
Art Unit 2875

Please charge any fees that may be required to maintain the pendency of this application
(except the Issue/Publication Fees), to our Deposit Account No. 19-4880.

Respectfully submitted,



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